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ABSTRACT

Model constructs of the relationship of program needs to educational objective setting in medical continuing education program development were outlined. Utilizing an inductive method of discovering theory as the major research method, five procedural models were derived. Data were collected from twenty respondents from ten university medical schools during interviews. Model I illustrates the flow of activity from origin of the idea to program design through extensive deliberation with the continuing medical education (CME) unit. Formal veto power over topic selection rests within the medical school departments and the role of the CME unit is supportive. Model II also represents the processing of a program idea with veto power in the medical school departments but includes educational support services of an Extension Service. Model III represents the processing of an idea with veto power in the Extension Service of the organization. The role of the CME planner/administrator is consultative. Model IV illustrates the processing of a program idea from an external source. The power to veto topic selection is in the CME unit. The fifth model is a general one in which a program idea from inside or outside the medical school is received in the CME unit. The program design is a product of the CME planner/administrator's coordinating effort and planning committee expertise. (EM)

THE TRANSLATION OF IDENTIFIED NEEDS INTO PROGRAM OBJECTIVES

(A Paper Prepared for the Adult Education Research Conference at San Antonio, April 5 - 7, 1978)

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Educational need has been defined as a gap between a present, or initial, or existing set of circumstances and some changed set of circumstances. These circumstances can be specified in terms of knowledge, performance, and attitudes, each of which is a component of competence. The changed set of circumstances may be described in terms of how the individual and/or someone else would have the individual's knowledge, performance, and attitudes differ from the initial set of circumstances. For any individual, these gaps are in a constant state of flux; shifting in number; magnitude; and importance throughout his/her professional career[1].

During the past decade the availablility of medical care of uniformly high quality has become a leading national priority. In an effort to address this area of concern, the Commission of Physicians for the Future was wstablished under the auspices of the Josiah Macy, Jr. Foundation. In its report of 1976 the Commission found, "With the rapidity of changes in modern medicine, it is crucial that the practicing physician participate in continuing education."[2]

It is a responsibility of continuing medical education (CME) to bridge the gap between desirable knowledge, performance, and attitudes and existing physician competence through effective programming. Clarification of the program planning process can be expected to facilitate more effective CME programming, but inquiry into the processes used by persons who plan learning activities for adults is largely an unexplored area in continuing education research[3]. Program development theorists ascribe to the notion that educational objectives should be based upon learner needs, but none of them details the process by which assessed need data is translated into educational objectives.

This study outlines constructs of a substantive theory (i.e., a model) of the relationship of needs assessment to objective setting in program development. Ultimately, that stustantive theory may provide groundwork and

data for the compilation of a formal theory of the relationship of needs assessment to objective setting by adult and continuing education researchers.

The concepts in question were identified through comparative analysis of needs assessment and objective setting processes within institutions of higher education sponsoring CME and having similar medical school resources. Elements of theory ~~that~~ generated through comparative analysis include: 1) conceptual categories and their conceptual properties, and 2) hypotheses or generalized relations among the categories and their properties.

Constant comparing of acquired information draws the researcher's attention to the many similarities and differences within the data base. Considering these leads him to generate abstrac t categories and their properties, which since they emerge from the data, are important to a theory explaining the kind of behavior under consideration[4].

Review of Literature

Medical schools play a significant role in providing CME. Medical school sponsored CME programs have grown from 626 in 1962-63 to 2,945 in 1977-78. In 1977-78, one hundred thirteen medical schools serve as primary sponsors for 40% of all accredited offerings[5]. Medical schools also serve as secondary sponsors, or contributors of expertise and facilities for programs of other sponsors. Having shifted from medical societies to medical schools by 1946, the leadership role in conducting CME remains with medical schools[6].

Responsibility for relevant CME programming accompanies the leadership role of medical schools. The Liaison Committee for Continuing Medical Education (LCCME), accrediting agency of the Americal Medical Association (AMA), requires that to the extent possible educational objectives should be based on CME needs[7]. The obligations: 1) to accurately identify physician-learner needs, and 2) to create effective educational treatment to meet those needs rest within the function of program development.

Program development models of Cyril O. Houle[8], "Malcolm S. Knowles[9], and Alan B. Knox[10], suggest that program planning is a cyclical process. These models include five essential stages:

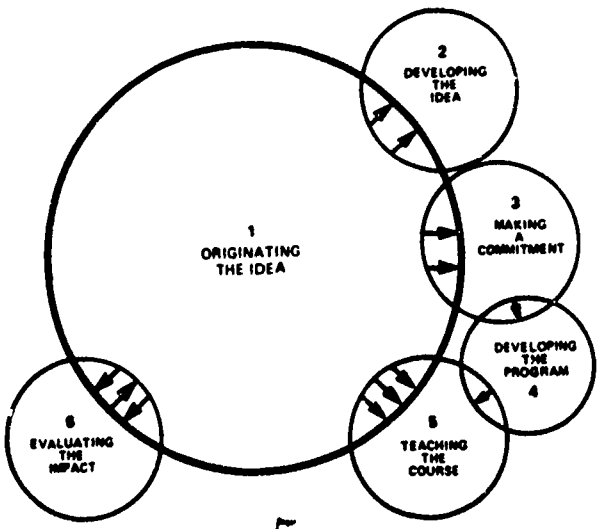
1. Clientele Analysis/Needs Assessment
2. Awareness of Setting

3. Determination of Objectives
4. Selection and Organization of Learning Activities
5. Evaluation

Evaluative information obtained through comparing expectation with performance, monitoring planning activities, monitoring educational activities, and diagnosing educational activities (stage 5) is returned to stage one (clientele analysis/needs assessment). Here the planning process recommences.

A pervasive theme of the three models, and one that is characteristic of what has come to be called "progressive education" is that they are learner oriented. Learner centered program development is supported by Bergevin[11] in his discussion of adult education philosophy in general, and Miller[12] in his critique of continuing medical education, per se. Bergevin suggests that an effective program of adult education should consider the needs and related interests of the adult learner and attempt to discover and meet his real needs as well as the needs of his social order. Miller advocates identification of physician-learner needs through a process model which proposes leading physicians to study what they do, to identify their own educational deficits and to establish realistic priorities for their own personal learning programs. Under such a plan, the physician-learner must progress from listener to questioner to participant to contributor and the academic teacher must progress in the opposite direction[13].

Pennington and Green[14] examined program development processes across six professions in eleven major institutions of higher learning. Results indicated that the continuing professional education planning process clusters around six groups of activities (See Figure 1):



Cluster one included five program origins: 1) a formal needs assessment, 2) requests from a client or client group, 3) the availability of project monies, 4) legislative mandate, and 5) suggestions from campus faculty and staff.

The second cluster included informal testing of the idea with other practicing professionals or campus peers, as well as the conducting of a market analysis or structured needs assessment.

Activities of the third cluster included selection of faculty, and logistics of recruitment, publicity, and arrangements for facilities. A decision regarding use of an existing campus course or development of a new learning activity was made. Not all of these activities would be completed before "Developing the Program" began. They overlapped with the fourth cluster where objectives were both determined and stated.

These four program development models reflect the tradition of classical curriculum development. The logical operations of the classical model are: 1) determining objectives, 2) stating them in appropriate form, 3) devising learning experiences to attain given outcomes, and 4) evaluating the outcomes of those experiences[15].

Decker Walker[16] discussed an alternative "naturalistic" model of curriculum development in 1971. The differences in the two models were succinctly described by Walker:

> This model is primarily descriptive, whereas the classical model is prescriptive. This model is basically a temporal one: it postulates a beginning (the platform), and end (the design), and a process (deliberation) by means of which the beginning progresses to the end. In contrast, the classical model is a means-end model: it postulates a desired end (the objective, a means for attaining the end (the learning experience), and a process (evaluation) for determining whether the means does indeed bring about the end.

Schwab's[17] description of the deliberation process also incorporates the concept of learner needs:

> It [deliberation] must try to ascertain the relevant facts in the concrete case. It must identify the desiderata in the case. It must generate alternative solutions. It must make every effort to trace the branching pathways of consequences which may effect desiderata.

Most adult education planning theorists reflect the influence of classical curriculum development on adult and continuing education program development. The models of Houle, Knox, Knowles, Pennington and Green, as well as others such as Bergivin, Morris and Smith[18], and Boyle[18], address planning within highly similar frameworks. Each remains tightly consistent in terms of major procedures and sequence, generally admitting to overlap of function within the more abstracted categories. The greater variance in these models exists in the more defined lists of activities within each cluster or procedural step. All of them, as well as the more naturalistic model described above, are learner oriented and constructed with the idea that adult education programming should center around satisfaction of adults' educational needs and/or desires. While each of the classical theorists ascribes to the notion that program and instructional objectives should be based upon learner needs, none of them details the process by which assessed need data is translated into program objectives.

Rober F. Mager's Preparing Instructional Objectives[20] virtually ignores the translation process:

> Since no one can see into another's mind to determine what he knows, you can only determine the state of the learner's intellect or skill by observing some aspects of his behavior or performance (the term "behavior", as used here means overt action). Now, the behavior or performance of the learner may be verbal or nonverbal. He may be asked to respond to questions verbally or in writing, to demonstrate his ability to perform a certain skill, or to solve certain kins of problems. But whatever method is used, you (the programmer) can only infer the state or condition of this performance.

Mager afforded little more attention to the propriety of objectives to educational needs in Measuring Instructional Intent[21].

> Finally, when an objective is being drafted, it is not always known whether it will ultimately be judged important enough to be achieved. For that reason, many objectives come into being that aren't really important. And when you see an objective that isn't important ~~achieved~~, you should not only not bother to write or select test items that are appropriate to the objective - you shouldn't test at all.

The programmed instructional schemata of Mager, as well as Popham and Baker, Systematic Instruction[22] and Planning an Instructional Sequence[23]

suggest that program planners identify "important objectives" without establishing criteria for the definition of "important objectives" and without formalized identification of learner needs. The process of prescribing objectives is, thereby, relegated to subjective guesswork of program developers.

Most administrators and program planners rely heavily upon their experience and inituitive judgment to guide their program decisions. Hertling and Greenburg[24] found that of 110 surveyed National University Extension Association institutions, eighty-five percent used their own continuing education staff for purposes of conducting research to determine the continuing education program needs and interests of adults. Included in the eighty-five percent, Hertling and Greenburg found twenty-one percent who indicated that they had an established research body within their continuing education divisions whose charge was to conduct needs and interests research.

The span of adult education program development literature clearly reflects the learner-centered educational philosophy of John Dewey. The emphasis placed upon learner needs and interests by adult educators is documented by Hertling and Greenburg. With AMA and public endorsement as a major vehicle for maintenance of physician competence, continuing medical education is expected to provide effective programming based upon physician-learner needs. Translation of needs and interests into relevant educational objectives, however, remains a largely unexamined but recurring practice within CME program planning. The ultimate intent of this study is to fill the procedureal gap between identification of physician-learner needs and prescription of appropriate learning objectives through provision of an explanatory theory of process.

Research Method

To accommodate the intent of this study, the research method called for must identify variables and the relationships between variables. This includes the theoretical properties of the separate variables and the direction of relationships.

Since the task is analysis of data in an effort to order and make sense of it, rather than the testing of specific hypotheses of the arbitrary fitting of findings into an existing theoretical model,

experimental, correlational, quasi-experimental and survey research methods are rejected. The emphasis of this study has been discovery, as opposed to verification, which is the relative emphasis of the rejected methods.

The constant comparative method, an inductive method of discovering theory serves as the major research method. This method was elaborated by Barney G. Glaser and Anselm L. Strauss[25] in The Discovery of Grounded Theory: Strategies for Qualitative Research.

The constant comparative method combines systematic coding and analysis with theoretical sampling to generate a theory which is integrated, consistent, close to the data, and in a form clear enough to be operationalized for testing through quantitative research methods. Unlike most methods of analysis, which are designed to insure that two analysts working independently with the same data will achieve the same results, the constant comparative method is designed to permit the kind of flexibility that aids the creative generation of theory.

Glaser and Strauss[26] describe four stages to the constant comparative method: (1) comparing incidents applicable to each category, (2) integrating categories and their proerties, (3) delimiting the theory, and (4) writing the theory. First, each incident in the data is coded by the analyst into as many categories of analysis as possible. The emergent categories or data define the existing categories. As the coding continues, the constant comparative units change from comparison of incident with incident to comparison of incident with properties of the category which result from initial comparisons of incidents. Categories begin to become integrated. The theory develops as the different categories and their properties tend to become integrated and force the analyst to make some related theoretical sense of each comparison. If the data are collected by theoretical sampling at the same time that they are analyzed, then integration of the theory is likely to emerge on its own. The further refinement of categories (i.e., variables) and their interrelationships, gradually leads to the development of theory. The theory is continually delimited as a smaller set of higher level concepts emerges, and when the researcher is convinced that the categories are theoretically saturated, he reports them either in a discussional form or as a set of propositions.

Theoretical sampling is the process of collecting data for comparative analysis. It is intended to facilitate the generation of grounded theory. Data collection is controlled only by the emerging theory, and it is defined by the use of theoretical criteria. The basic criterion governing the selection of comparison groups for discovering theory is their theoretical relevance for furthering the development of emerging categories. As the central variables of the emerging theory are identified, the researcher is an active sampler of theoretically relevant data. He continuously analyzes the data to determine where the next theoretical question will take him.

The researcher minimizes differences in his comparative groups when he initiates generation of his basic categories and their properties. This maximum similarity of data lead to: 1) verifying the usefulness of the variables; 2) generating basic properties; and 3) establishing sets of conditions for a degree of variable. Having maximized similarity and having generated a basic theoretical framework, the researcher turns then toward maximizing differences in the data. Diversity in the data forces: 1) dense developing of the properties of the variables; 2) integration of variables and their properties; and 3) delimiting the scope of the theory[27].

The second and third stages of the constant comparative method are complemented by theoretical sampling. The search for theoretically relevant data, first between similar and different comparison groups, continues until all the critical variables and their relationships have been theoretically saturated. The criterion for saturation is that no additional data can be found which further embellishes the theory.

To summarize, constant comparative method does not require a predetermined data collection and analysis design. Its nature is that of continual redesign based upon emerging concepts and interrelationships among variables. Using a comparative technique that allows for similarities followed by differences among groups, qualitative data are sought from a diverse data base. The comparative method of continual coding and analysis, controlled throughout by the mandates of theoretical sampling, lends itself to a variety of data collection methods which yield a wealth of data -- data that is collected and analyzed only to the extent that it is in the service of grounded theory.

Constant comparative method has been selected because it is a method particularly well-suited to the generation of theory, as opposed to the verification of it. Instead of reliance upon pre-selected variables as is generally the case with methods more suited to verification, the comparative method includes the comparison of similar and different groups to facilitate the development of theory. The comparative method provides not a method whereby different slices of data are seen as a test of each other, but rather it provides for different sources of information that must be explained and integrated theoretically by adding more slices of data to qualify the theory. Constant comparative method and theoretical sampling together encourage a multi-faceted investigation in which data collection techniques, their uses, and the types of data acquired are unlimited by any criteria except the requirements of theoretical saturation.

The constant comparison of variables, including their properties and their interrelationships with each other, results in a type of "development" theory. The grounded theory is constantly being delimited and modified in the light of the phenomena under investigation, and the comparative method especially facilitates the generation of theories of process and change through the joint process of coding and analysis until theoretical saturation is attained.

Limitations of the Study

Comparative analysis is time-consuming. The researcher must design the study as the theory emerges and test and re-test hypotheses enroute. These pressures require that the researcher be adept at methodology and application of an assortment of research designs.

In contrast to most experimental or survey research methods, the number of variables subject to investigation by the researcher utilizing comparative analysis unlimited. Even though this quality is highly valued by the researcher attempting to discover theory, consideration of a high number of variables and interrelationships is tedious and can become unmanageable.

As a rule, quantitative methodologists stress the importance of sampling design to ensure generalizability[28]. Qualitive research is initially focused on the research subject and findings are usually open to very little generalization. Generalizibility of findings -- in the

traditional sense -- is limited to the substantive area under study.

Research aimed at discovering grounded theory requires that theoretical collecting, coding, and analysis occur as simultaneously as is possible. The researcher must look for emerging categories, reformulating them as their properties emerge, pruning his list of categories while adding to the list as the core of theory emerges. He must also develop his hypotheses and integrate the theory in order to guide theoretical sampling at each step of the study.

The tempo of the research is difficult to predict. Theoretical sampling usually requires reading documents, interviewing, and observing at the same time, since all slices of data are relevant.

> There is little, if any systematic interviewing of a sample of respondents or interviewing, that excludes observation. At the beginning of the research, interviews usually consist of open-ended conversations during which respondents are allowed to talk with no imposed limitations of time. Often the reseacher sits back and listens while the respondents tell their stories. Later, when interviews and observations are directed by emerging theory, he can ask direct questions bearing on his categories.

During early interviews, the researcher begins to discover concepts which direct subsequent interviews and observations.

Observations

Respondents were asked to: 1) select a typical conference or institute which they had planned, and 2) describe the process from origin of the idea to implementation of the idea as a program. The researcher's observations are reported as models. They are the results of early coding and analysis.

Five procedural models are presented. Four models represent the theoretical sample along the dimension of "veto power over topic selection" (See Table 1.) The fifth is a general model which is both generic to the other four models and descriptive of identified theoretical categories.

Model I (See Figure 2) illustrates the flow of activity from origin of the idea, (i.e., medical school faculty member) through extensive deliberation with the CME unit and planning committee to program design as an outcome of deliberation. Formal veto power over topic selection rests within the medical school departments (e.g., dermatology, surgery,

TABLE I DIMENSIONS OF THE THEORETICAL SAMPLE

Categories	Sub-Categories	n	%
University Affiliation of Respondents	University of Chicago	1	5
	University of Illinois	4	20
	Indiana University	1	5
	University of Iowa	2	10
	University of Michigan	2	10
	Michigan State University	1	5
	University of Minnesota	2	10
	Northwestern University	1	5
	Ohio State University	2	10
	University of Wisconsin	4	20
		20	100%
Respondent's Appointment within the University	Continuing Education Staff	3	15
	Continuing Medical Education Staff	7	35
	Medical School Faculty	10	50
		20	100%
Number of Medical Schools in the State	One	2	20
	Two	3	30
	More than two	5	50
		10	100%
Power to Veto Topic Selection	Within the CME unit	2	20
	Within Other Medical School Units	6	60
	Within a Conference and Institute Unit	2	20
		10	100%
Title of Highest Ranking CME Administrator	Associate Dean	5	50
	Assistant Dean	1	10
	Director	4	40
		10	100%
Ranking Administrator's Professional Degree	Doctor of Philosophy	2	20
	Medical Doctor	8	80
		10	100%

or endocrinology). Planners describe the role of such a CME unit as supportive, although topic ideas could be initiated from within the CME unit.

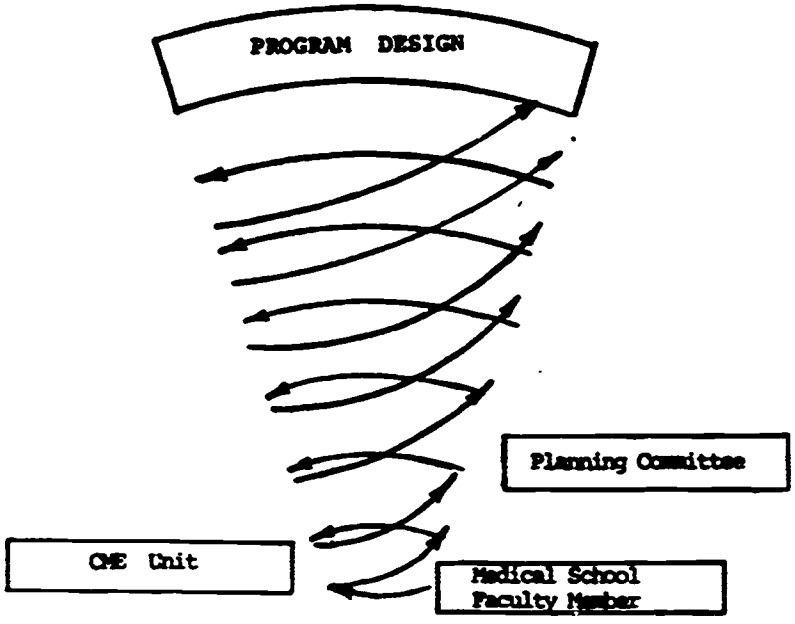


Figure 2. Model I: Processing of a Program Idea With Power to Veto Topic Selection in Medical School Departments

Previously completed clientele analysis provides baseline data to the CME unit and medical school faculty of Model I. Clientele analyses identify physician characteristics and their attitudes toward CME. Variables generally include specialty, type of practice, practice setting, recency of graduation from medical school, whether or not CME should be required, times and places most convenient for facilitating attendance, estimates of time spent by physicians on CME activities, and types of CME activities in which potential participants are engaged. These activities should not be considered educational needs assessment studies, since they do not address the gap between existing and desired competence.

The CME unit of Model I considers data from evaluation instruments of previous programs and utilizes that information in deliberations with medical school faculty and planning committee members. Faculty members consider referral problems in originating the idea, but the individual

department usually acts according to special interests of faculty. Needs are relegated to justification by fiat.

The CME planner of Model I meets with the faculty initiator and informally assesses the faculty member's intention. The planner helps the faculty person develop a tentative program. As a concommitant to completion of the tentative program, the CME planner begins scheduling, market analysis, and administration and completion of other support services. The CME planner initiates as many planning committee meetings and discussions as are necessary to produce a viable program design.

Following the completion of the tentative program, objectives are written. The CME planner guides the faculty member through the objective writing process with the question: "What do you want physicians to be able to do as a result of participating in this course?" Objective writing is considered an administrative detail and an educational directive.

Model II (See Figure 3) also represents the processing of a program idea with veto power in medical school departments, but Model II includes the educational support of an extension service. With this model, the faculty member takes his idea to the CME planner/director. The CME planner/director asks that the faculty member justify the idea. If the CME planner/director finds reasonable justification for the idea, the planner/director writes goals (not necessarily measurable) and objectives (measurable) with the faculty person. He asks, "What do you want doctors to get out of this presentation?, and How do you want to measure it?" The planner teaches the faculty member to write objectives.

The faculty initiator leaves the first meeting with this written information: 1) justification of need for presentation of the topic, 2) identified goals and objectives, 3) identified methods of instruction, 4) some notions of mechanics for recruitment of participants, and 5) congealed notions of evaluation. The CME planner/director helps the initiator with instructional design, (e.g., discussion as opposed to lecture, and duration of presentations).

The faculty initiator presents his tentative program to an inter-departmental committee. Upon approval the topic is sent to the educational support services unit of the Extension Service where market analysis, faculty presenter contacts, food services, lodging, and scheduling activities begin.

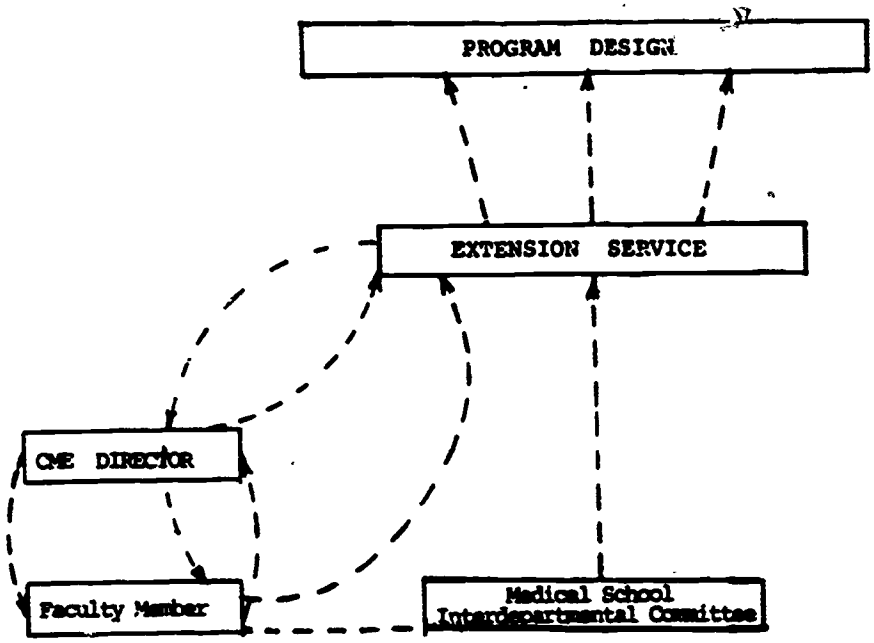


Figure 3. Model II: Processing of a Program Idea with Educational Support of Extension Service But Power to Veto Topic Selection in Medical School Departments

Model III (See Figure 4) represents the processing of an idea with veto power in the Extension Service of the organization. The role of the CME planner/administrator is consultative. He receives the program idea, discusses it with the initiator and encourages the initiator to outline a tentative program. The tentative program is presented to the Medical Education Coordinator (MEC) of the Extension Service by the CME planner/administrator, and faculty initiator. The MEC seeks justification for presentation of the program and assesses its marketability. If the topic is justifiable and marketable, the MEC, the CME planner/administrator and the faculty initiator nominate a planning committee.

Contacts with the planning committee and scheduling of subsequent planning sessions is started by the MEC. Objectives are written, budgetary constraints are deliniated, during the first planning committee meeting. Objectives are based upon the tentative program outline. They are They are subject to the approval of the planning committee. All educational support services are conducted by the MEC and Extension Service staff.

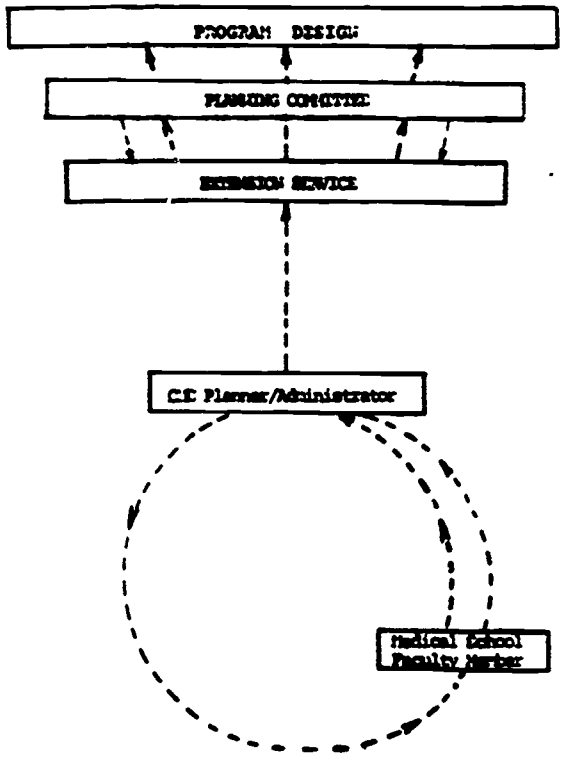


Figure 4. Model III: Processing of a Program Idea with Power to Veto Topic Selected in Extension Service

Model IV (See Figure 5) illustrates the processing of a program idea from an external source. Power to veto topic selection is in the CME unit.

The CME planner of Model IV receives the idea from a unit external to the medical school The planner tests the idea with faculty resources for significance of content, and administrative resources for feasibility and compatibility with institutional policies and guidelines. The planner also checks for recent coverage of the topic on a regional basis and receives the director's informal approval to continue planning.

Following approval, the planner meets with the topic originator to formulate ideas on paper. Compensation and other financial considerations are discussed. The topic begins to jell and a planning committee is nominated. The planning committee is usually comprised of: 1) content experts, 2) practitioners, 3) the topic originator, and 4) the CME planner.

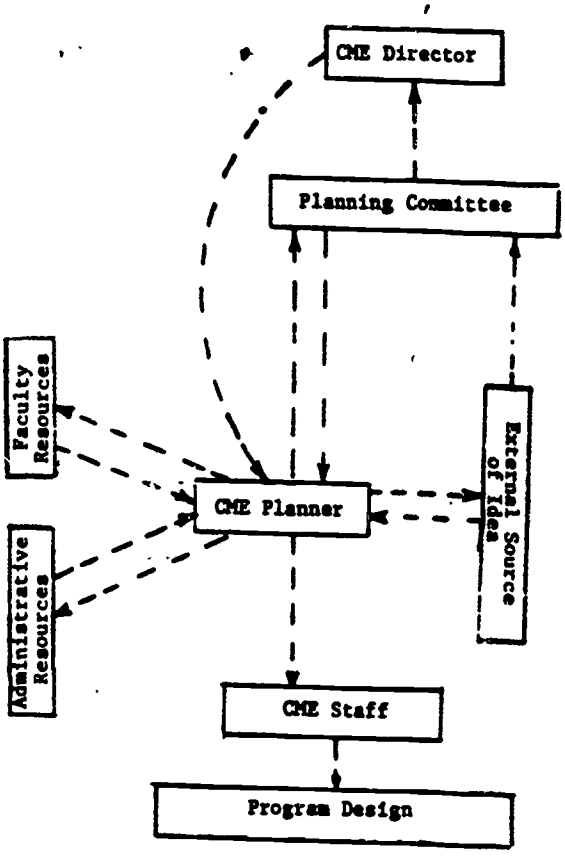


Figure 5. Model IV: Processing of a Program Idea into a Program Design with Power to Veto Topic Selection in the CME Unit

The CME planner contacts nominated planning committee members and arranges a meeting. At this session "ideal outcomes" are discussed. Objectives are often inferred. The planner guides the planning committee toward set objectives by continually reminding them of their expertise and sensitivity regarding the needs and expections of the target learner group. Assorted program development tasks are assigned to appropriate members (e.g., contacts with guest faculty might be made by content experts).

The CME planner: 1) completes an estimated budget, and 2) submits justification that the program is needed and marketable. The CME Director receives this correspondence and either approves or objects to presentation of the idea. The CME planner continues with appropriate activities such as scheduling, faculty contacts, publicity, lodging and further coordination of the planning committee upon official approval by by the CME Director.

The structural characteristics of needs assessment and objective setting are obscured by: 1) process, and 2) administrative accountability. Formal needs assessment is conducted infrequently. More often, it is an informal and retrospective justification of a topic idea by medical school faculty. It serves accreditation requirements. Needs assessment and objective setting are related by the notion that objective setting is based upon assessed need. By constantly drawing attention to this concept, the CME planner extracts the best educated guesswork of content experts.

The CME planner utilizes objective setting as: 1) an instructional goal with medical school faculty and planning committee members, and 2) a heuristic in the planning process. Guiding the faculty or planning committee member through the objective setting process, the CME planner: 1) helps educate the faculty member to objective setting, and 2) plans the CME program with the expertise of the faculty member.

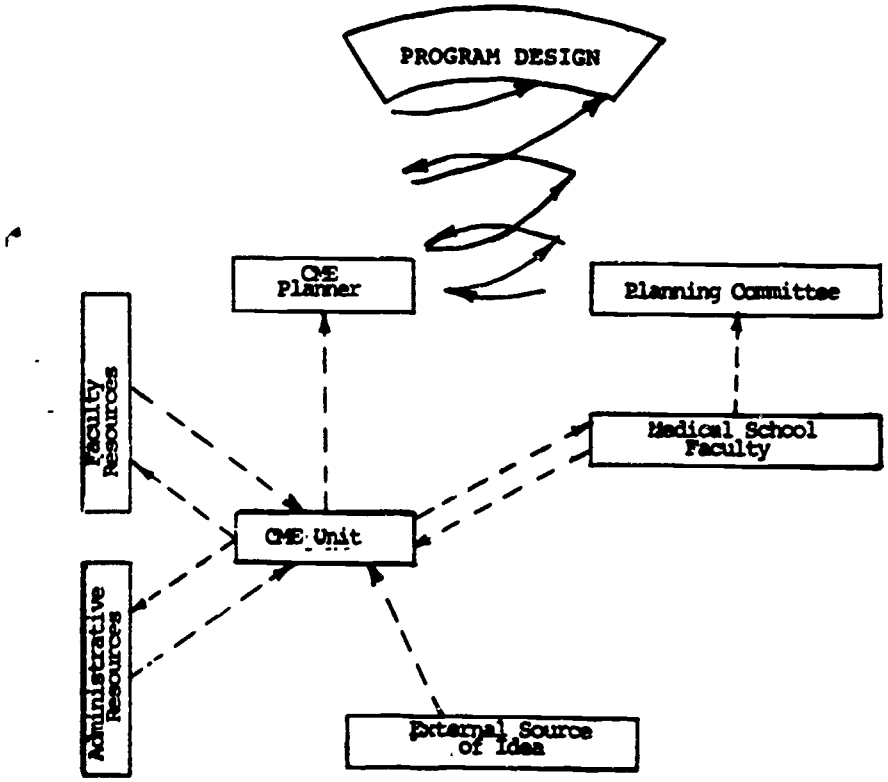


Figure 6. Model V: General Model of the Processing of an Idea from Origin to Program Design

Model V (See Figure 5) is a general model of the processing of an idea into a program design. The idea is conceived by a source either outside or inside the medical school. It is received in the CME unit and tested for feasibility and marketability. A planning committee is named and a CME planner assigned. The planner works closely with the planning committee on content and instructional design. Administrative taskes, such as scheduling, lodging, food services, and publicity are conducted under the aegis of the CME planner. The program design is a product of the CME planner/administrators' coordinating effort and planning committee expertise and special skills.

The extensive exchange of ideas between and among the CME planner and planning committee is a process of deliberation. The concept of educational need is integrated in the program idea. Objective setting directs the processing of the idea. It is a heuristic which functions both to link content and instructional design with the original idea; and to facilitate the deliberative process.

Abbreviated Notes

[1]
[2]Knox, 1973:K73
[3]Macy Foundation, 1976:14
[4]Pennington and Green, 1976:13
[5]Glaser and Strauss, 1967:36
[6]American Medical Association, 1973:6 & 13
[7]Richards, 1975:81
[8]American Medical Association, 1976:8
[9]Houle, 1972:46
[10]Knowles, 1970:46
[11]Knox, 1967
[12]Bergevin, 1967:141
[13]Miller, 1967:320-322
[14]Miller, 1967:325
[15]Pennington and Green, 1976:17
[16]Pennington, 1976:28
[17]Walker, 1971:58-59
[18]Schwab, 1970:36
[19]Bergevin, Morris, and Smith, 1963:10-12
[20]Boyle, 1965:20-21
[21]Mager, 1962:13
[22]Mager, 1973:vii
[23]Popham and Baker, 1970
[24]Popham and Baker, 1970
[25]Hertling and Greenburg,1974:7
[26]Glaser and Strauss, 1967:5
[27]Glaser and Strauss, 1967:101-117
[28]Glaser and Strauss, 1967:105
[29]Caulley and Dawson, 1978:3
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